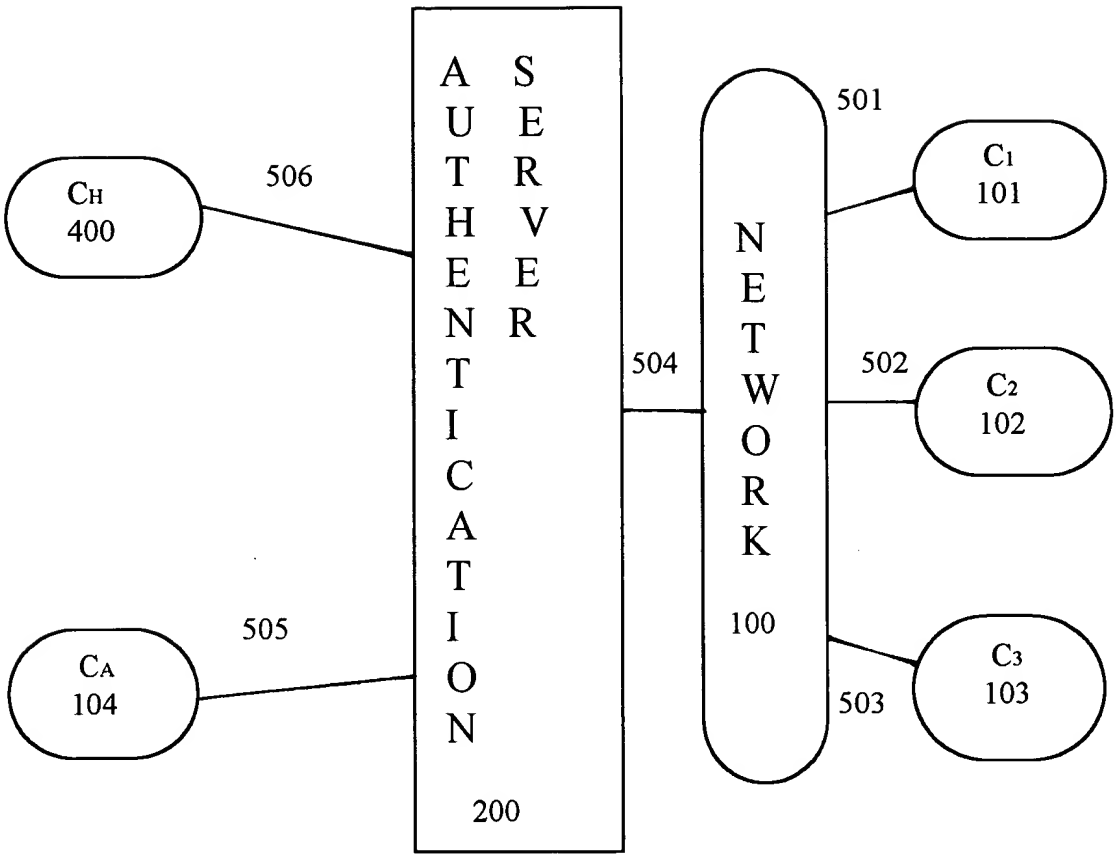

AUTHENTICATION SERVER
200
NETWORK
100
501
502
503
504
505
506
CH
400
CA
104
C1
101
C2
102
C3
103

Figure 1

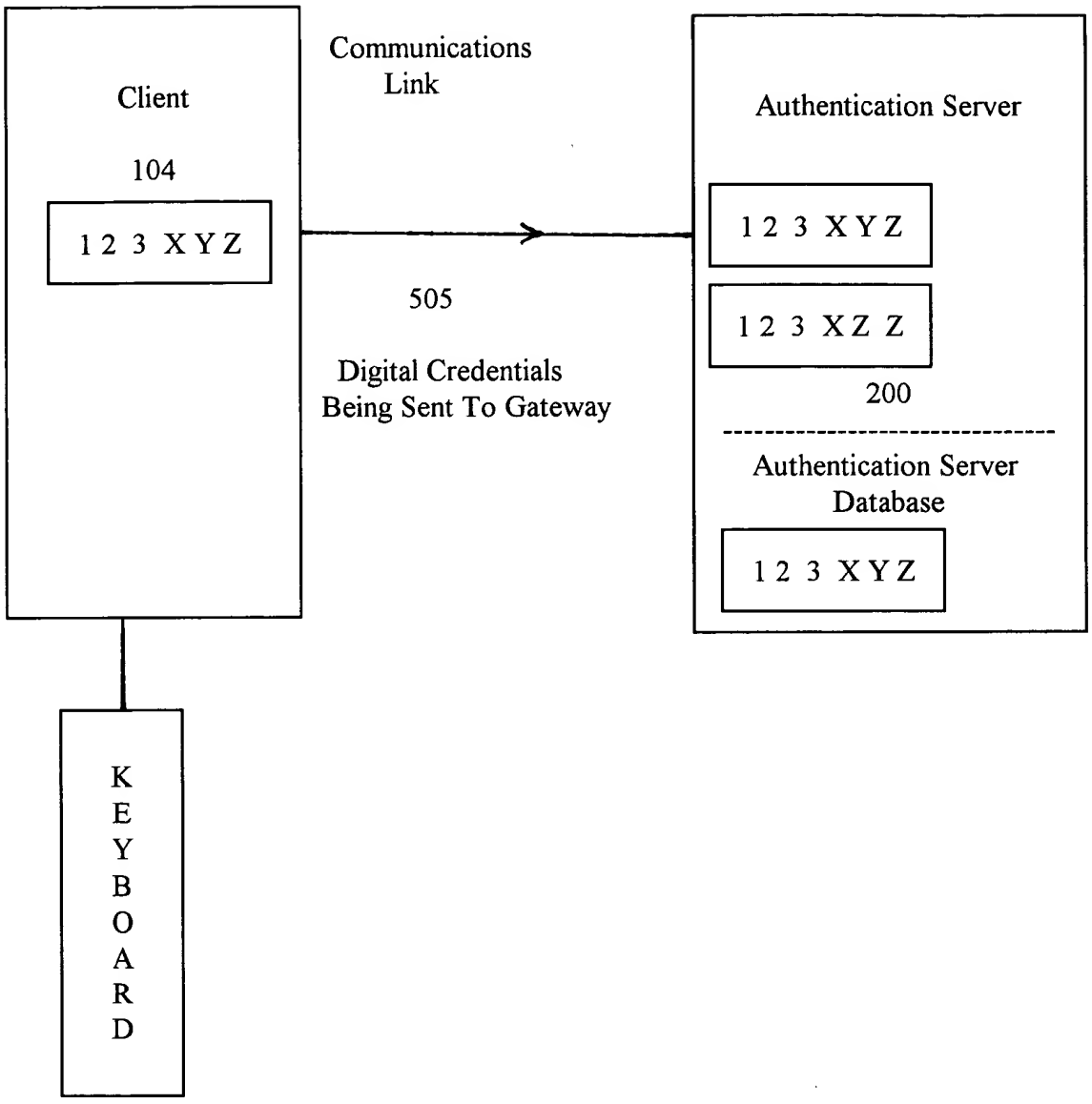

Client
104
1 2 3 X Y Z
Communications
Link
505
Digital Credentials
Being Sent To Gateway
Authentication Server
1 2 3 X Y Z
1 2 3 X Z Z
200
Authentication Server
Database
1 2 3 X Y Z
K
E
Y
B
O
A
R
D

Figure 2

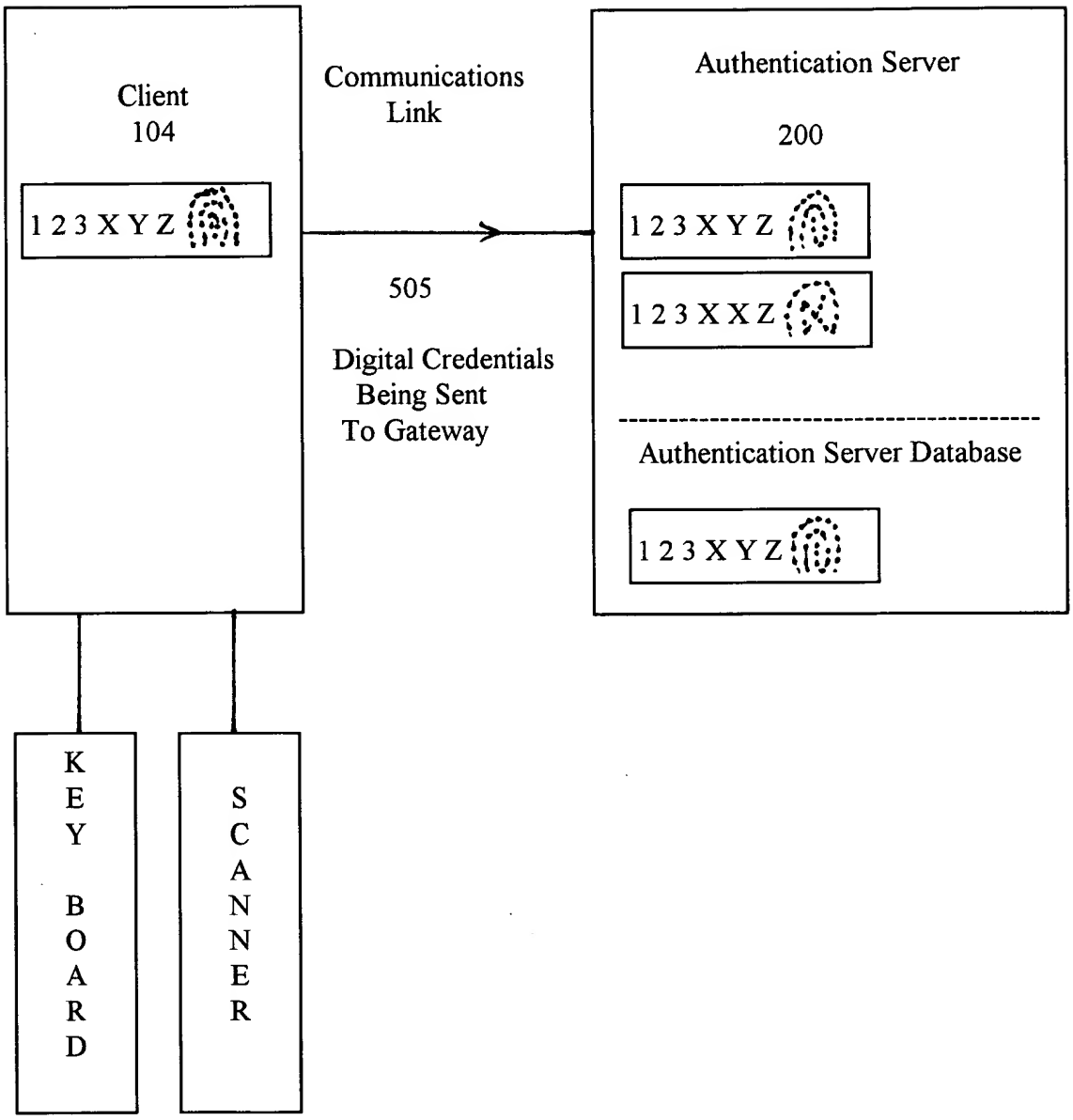

Client
104
1 2 3 X Y Z
Communications
Link
505
Digital Credentials
Being Sent
To Gateway
Authentication Server
200
1 2 3 X Y Z
1 2 3 X X Z
Authentication Server Database
1 2 3 X Y Z
K
E
Y
B
O
A
R
D
S
C
A
N
N
E
R

Figure 3

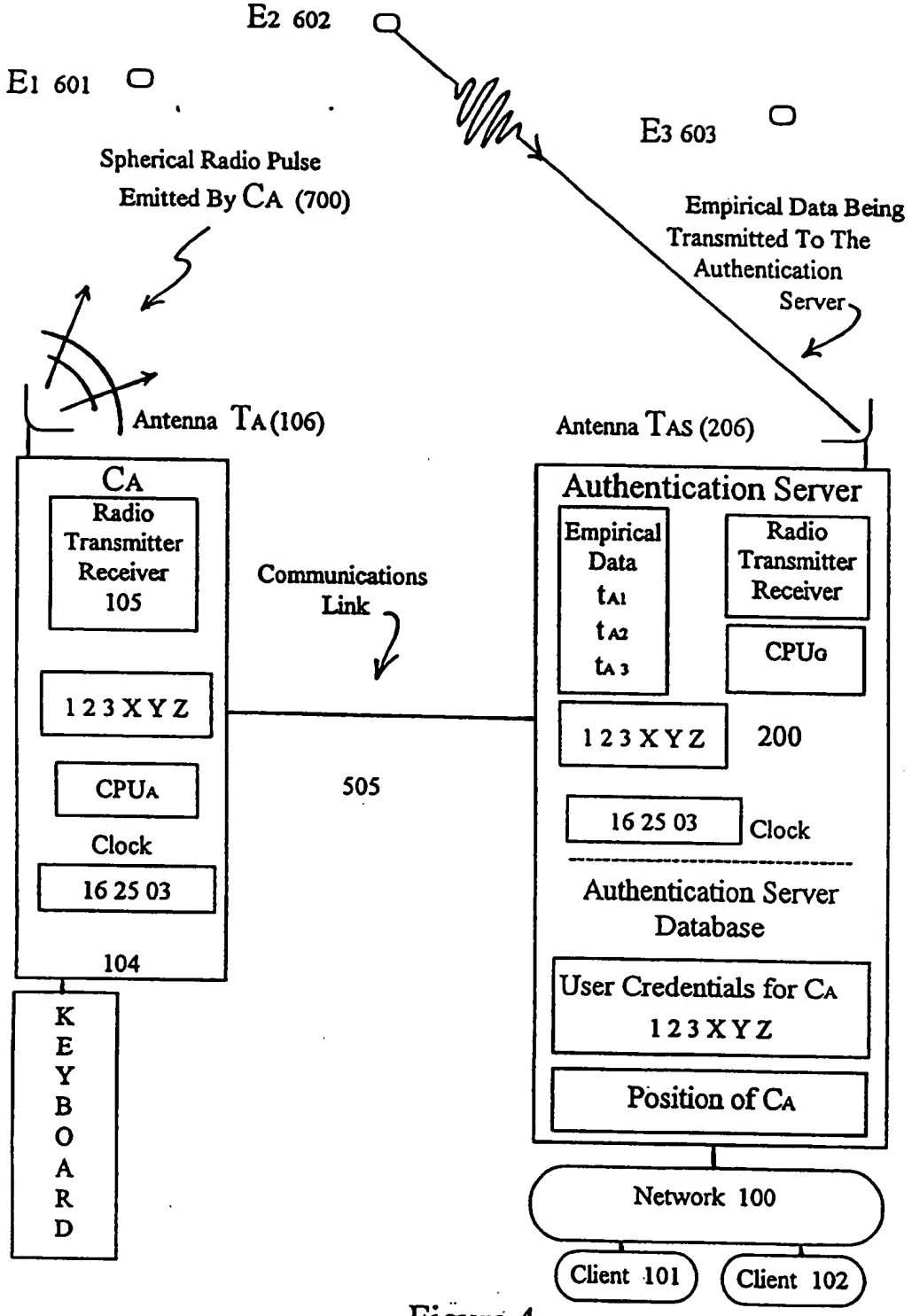

E2 602
E1 601
E3 603
Spherical Radio Pulse
Emitted By CA (700)
Empirical Data Being
Transmitted To The
Authentication
Server
Antenna TA(106)
Antenna TAS (206)
CA
Radio
Transmitter
Receiver
105
Communications
Link
1 2 3 X Y Z
CPUA
Clock
16 25 03
104
K
E
Y
B
O
A
R
D
505
Authentication Server
Empirical
Data
tA1
tA2
tA3
Radio
Transmitter
Receiver
CPUo
1 2 3 X Y Z
200
16 25 03
Clock
Authentication Server
Database
User Credentials for CA
1 2 3 X Y Z
Position of CA
Network 100
Client 101
Client 102

Figure 4

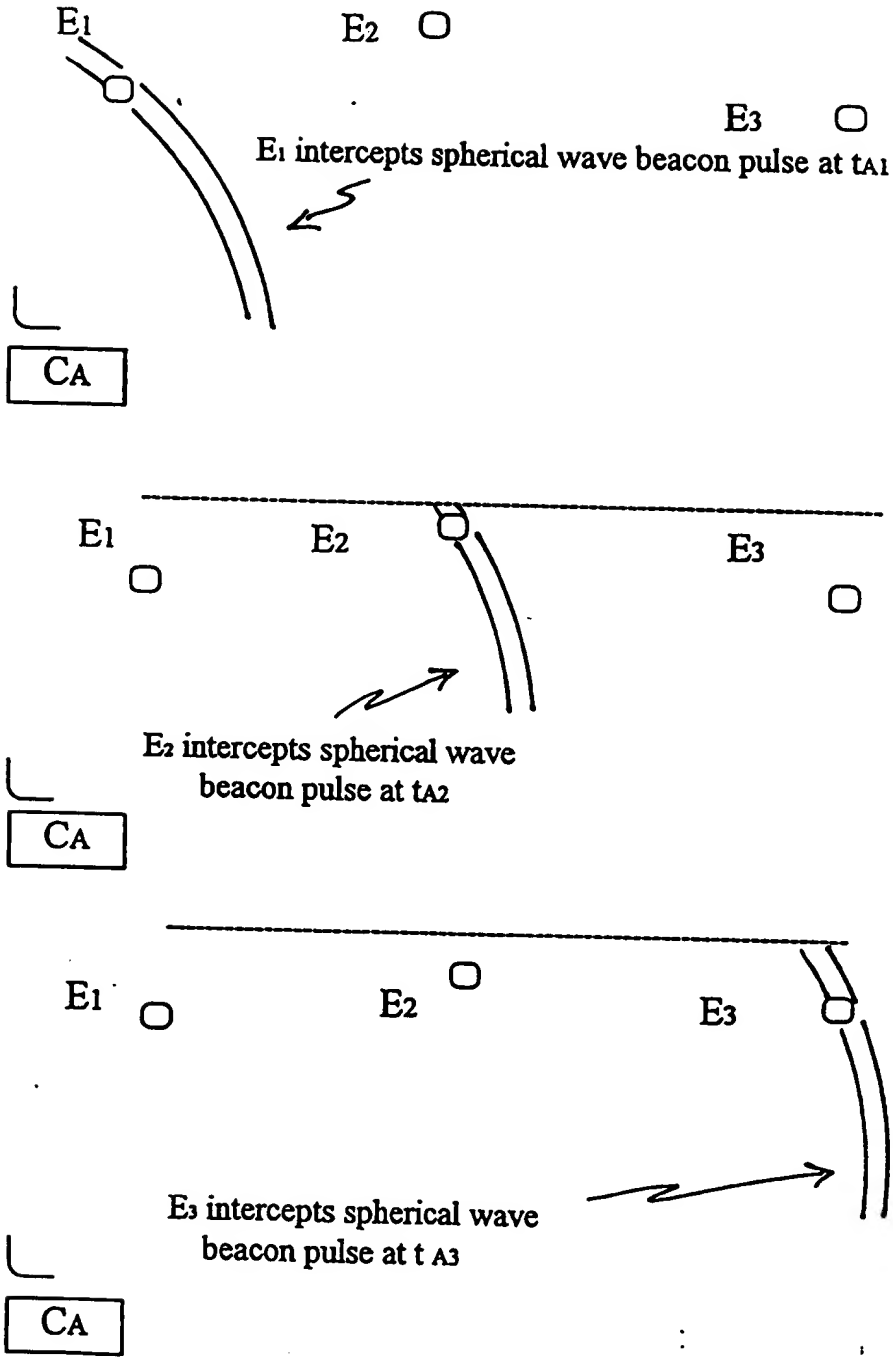

E1
E2
E3
E1 intercepts spherical wave beacon pulse at tA1
CA
E1
E2
E3
E2 intercepts spherical wave beacon pulse at tA2
CA
E1
E2
E3
E3 intercepts spherical wave beacon pulse at t A3
CA

Figure 5

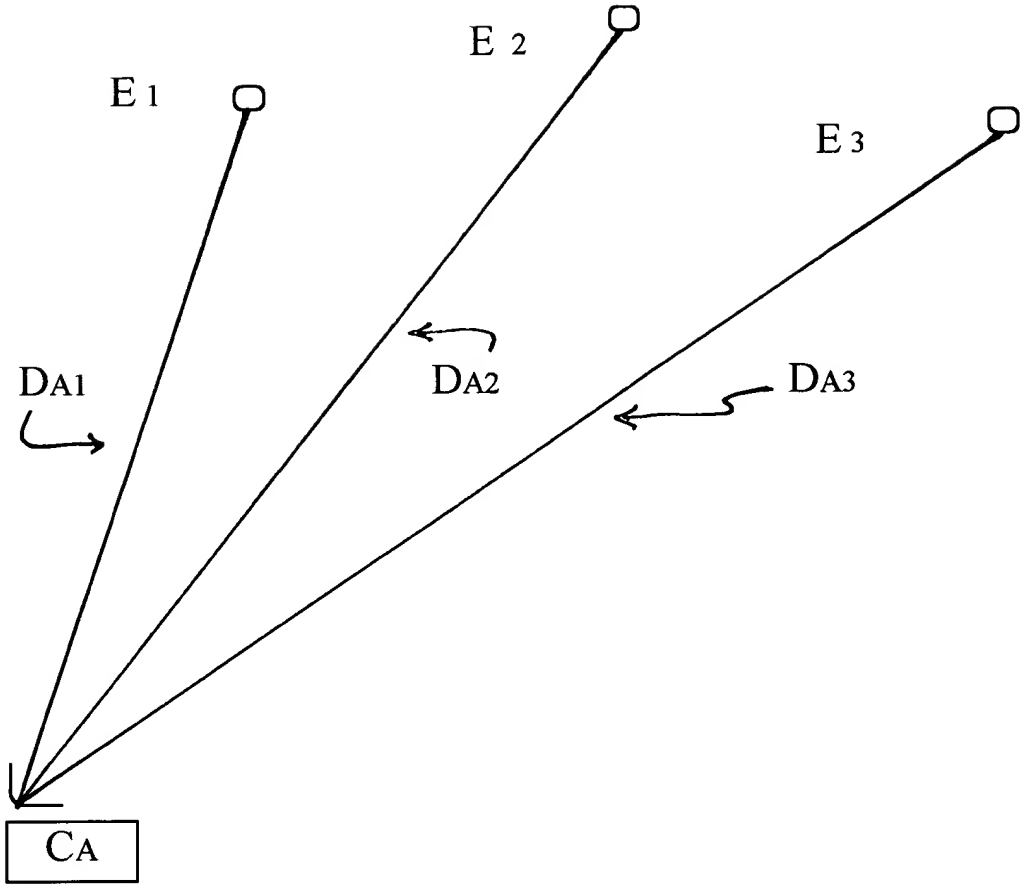



Figure 6

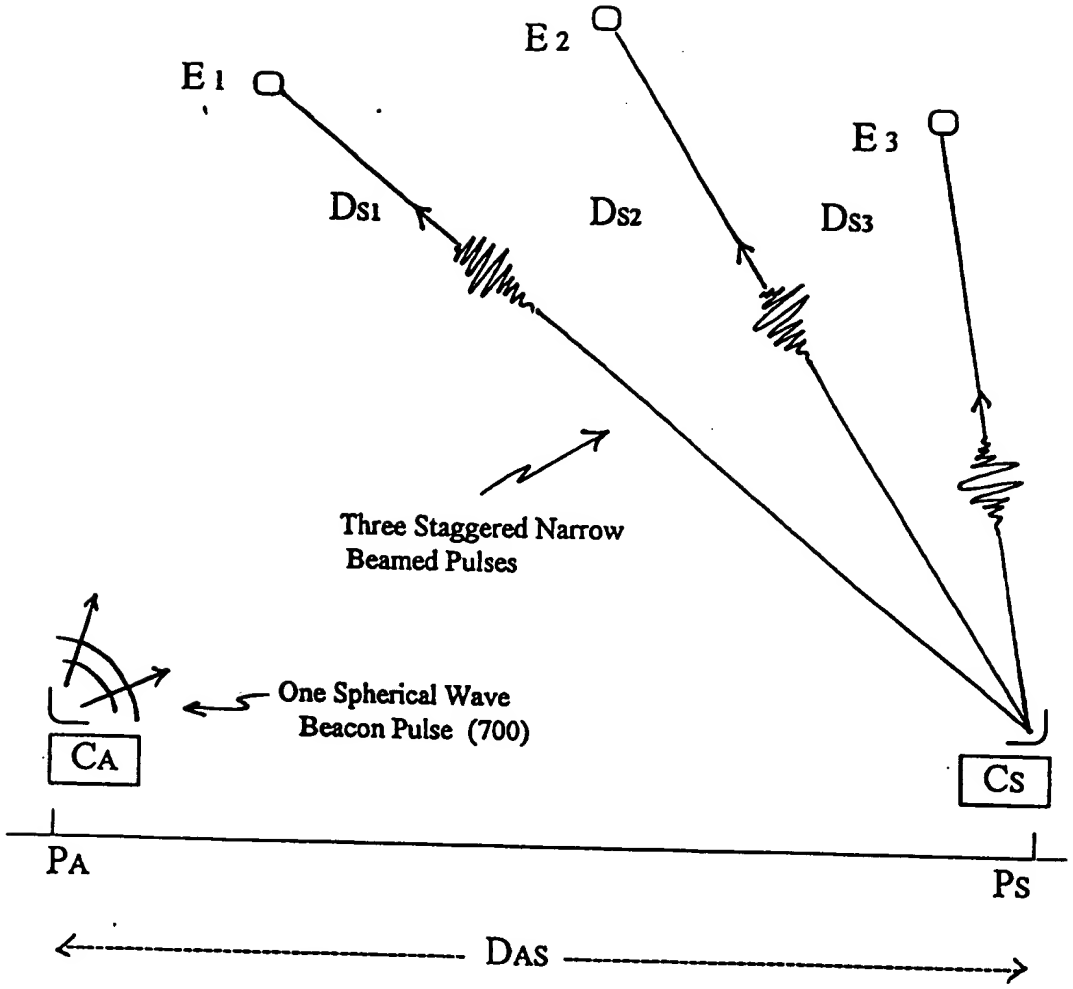

E1
E2
E3
DS1
DS2
DS3
Three Staggered Narrow
Beamed Pulses
One Spherical Wave
Beacon Pulse (700)
CA
CS
PA
PS
DAS

Figure 7

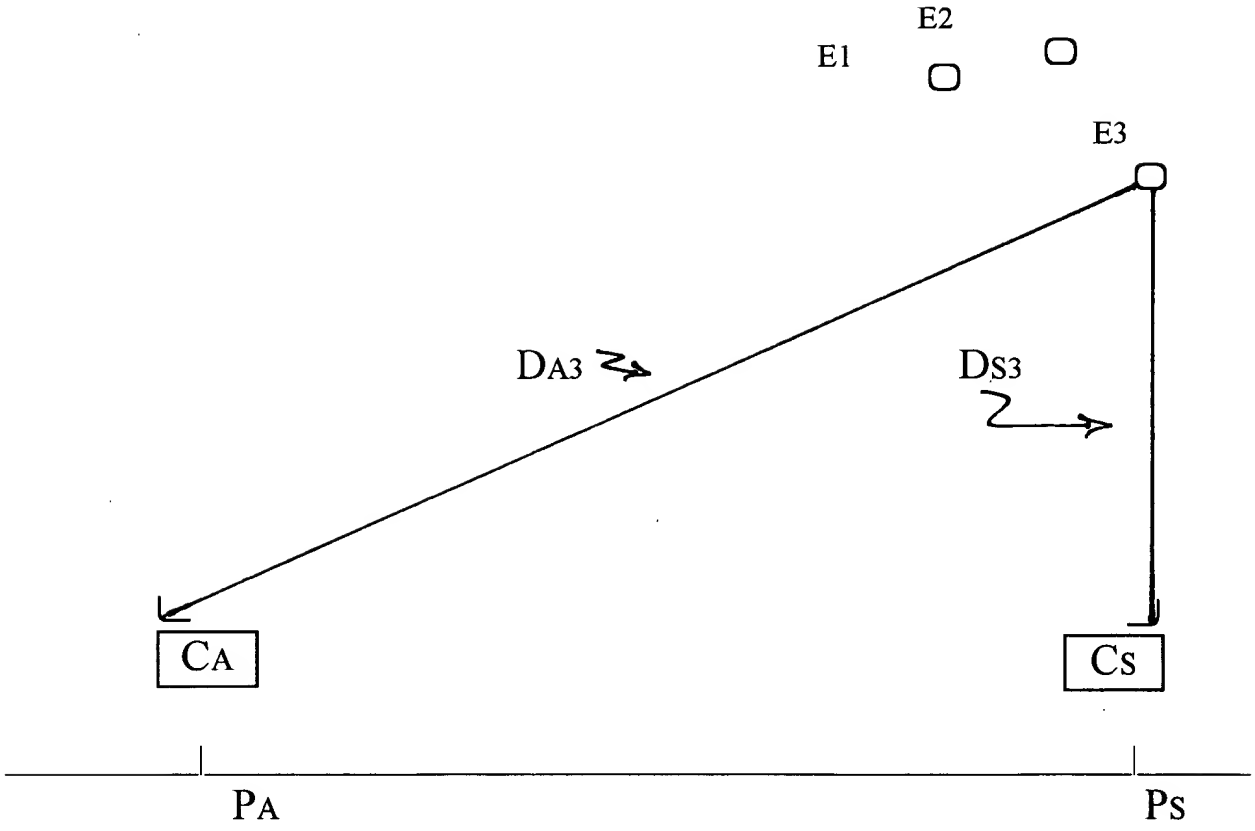
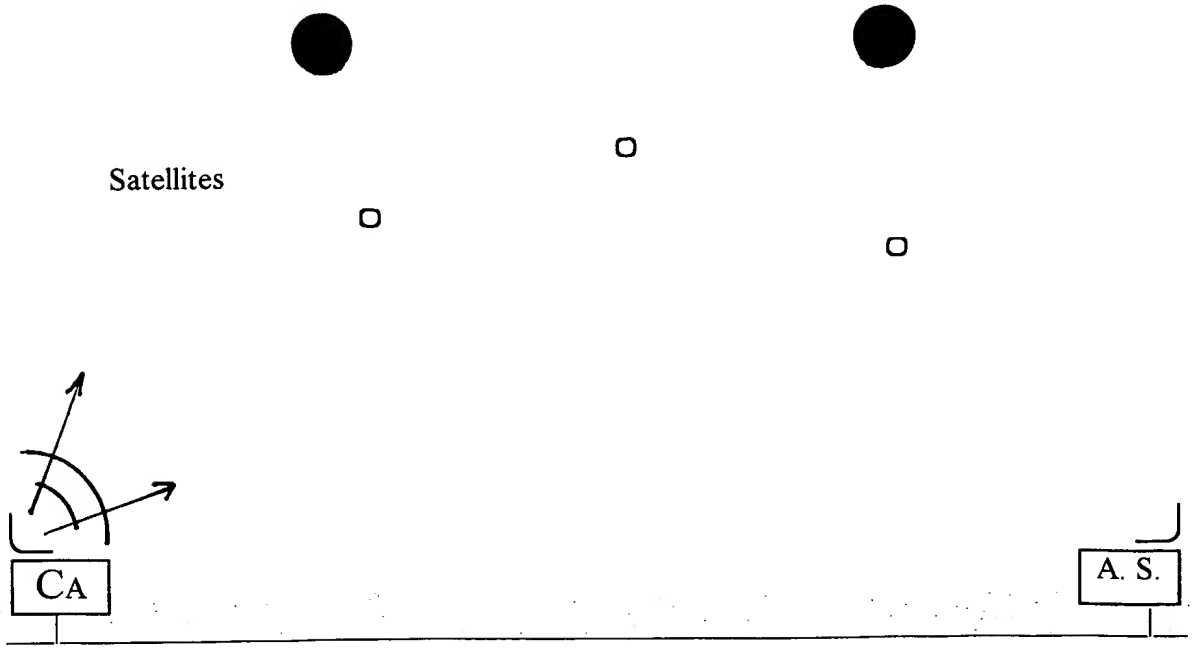
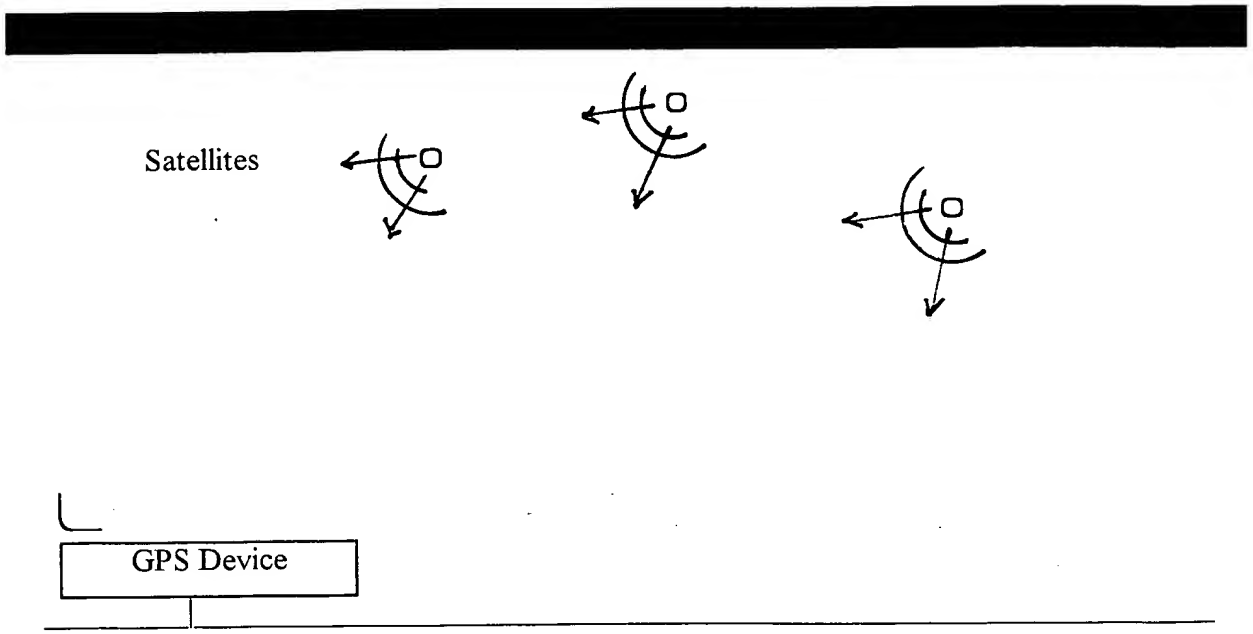



Figure 8




Authentication System




Global Positioning System

Figure 8A

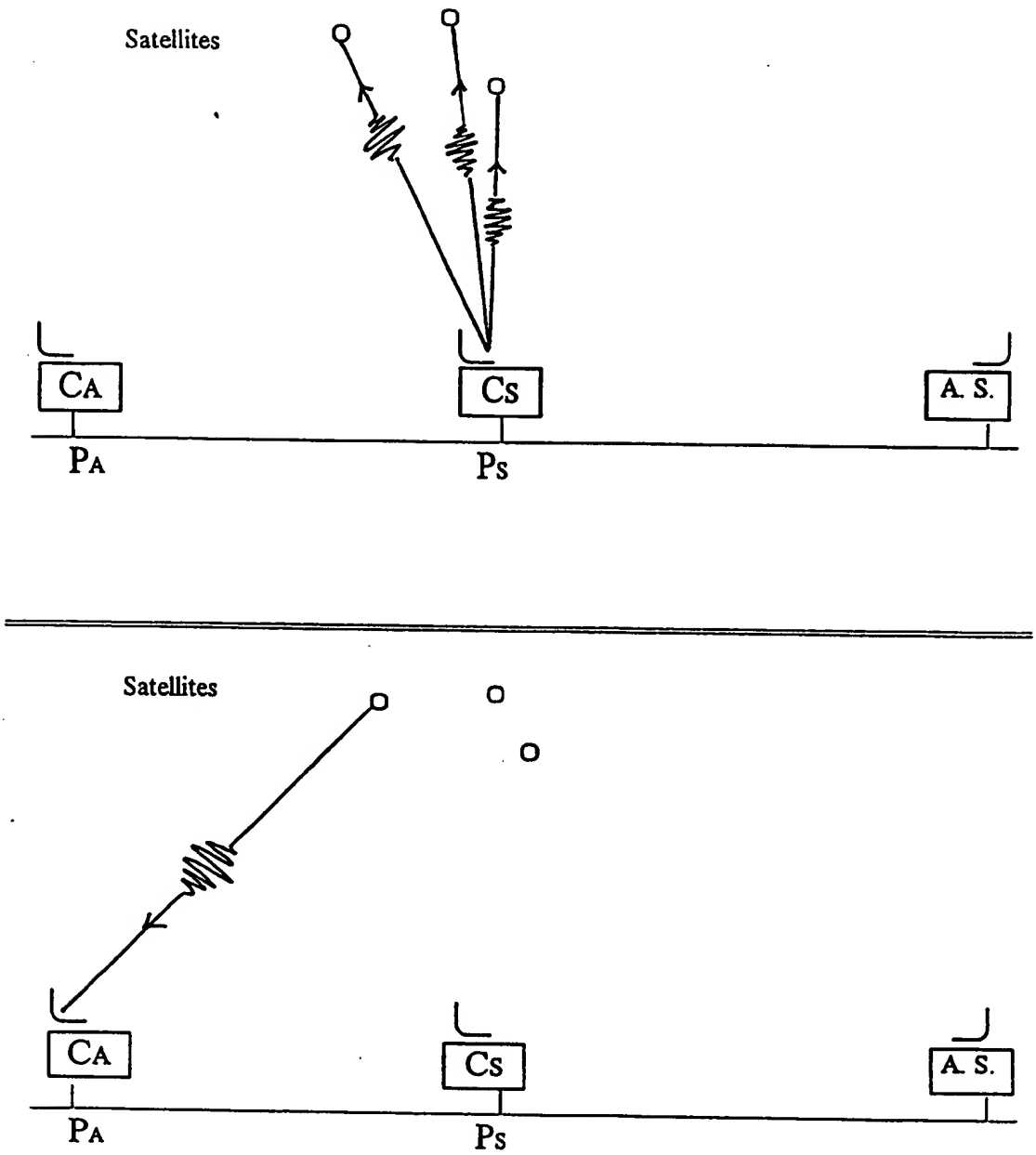



Figure 8b

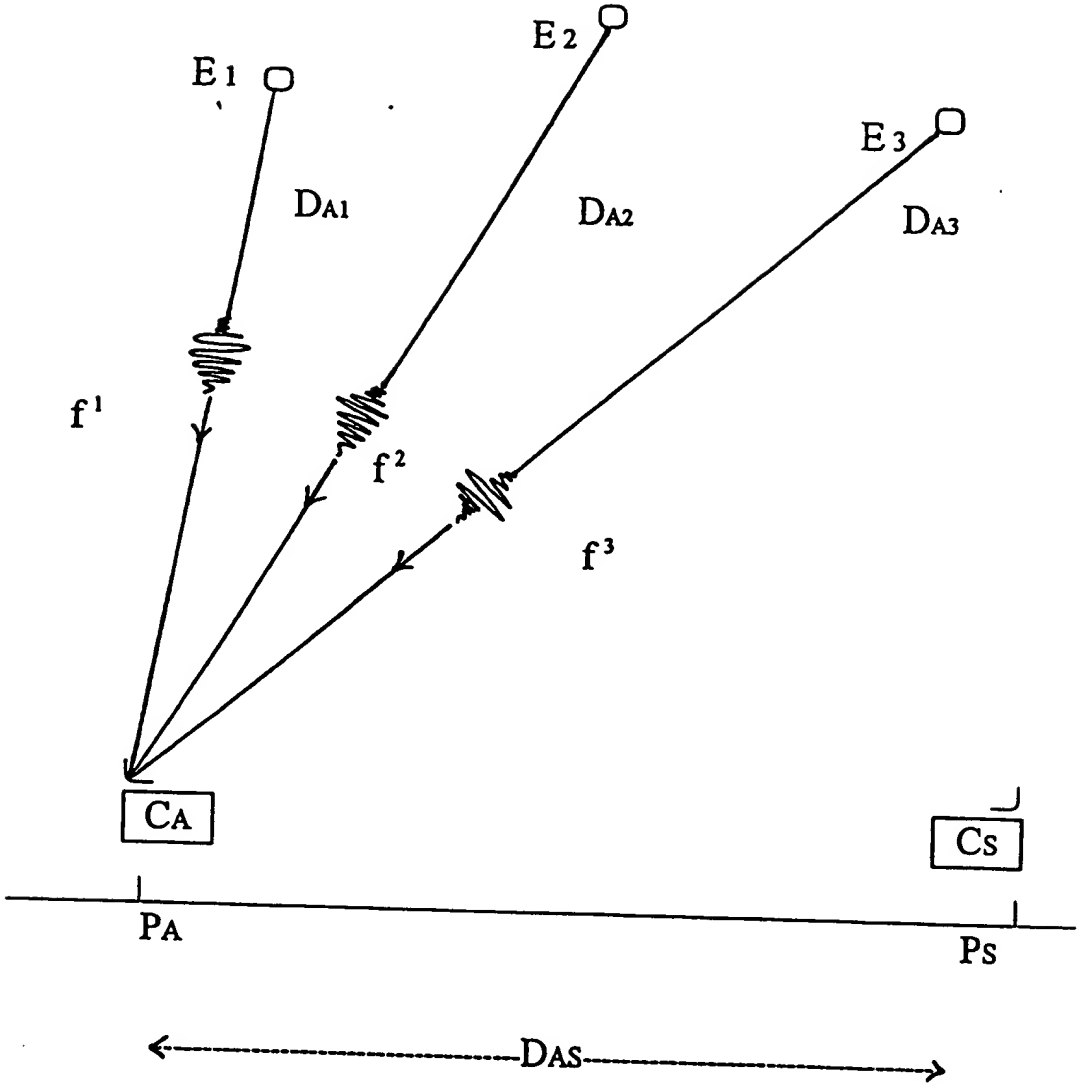



Figure 9

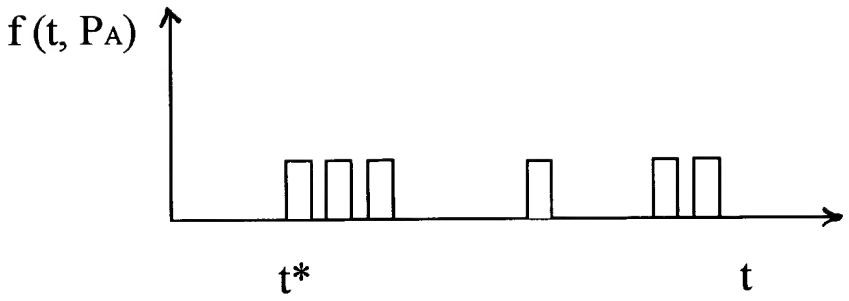



Figure 10

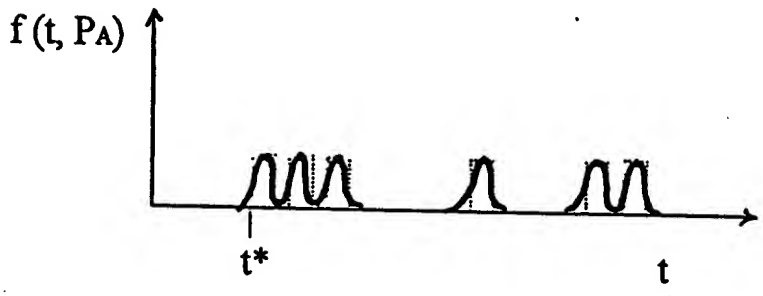



Figure 10 A

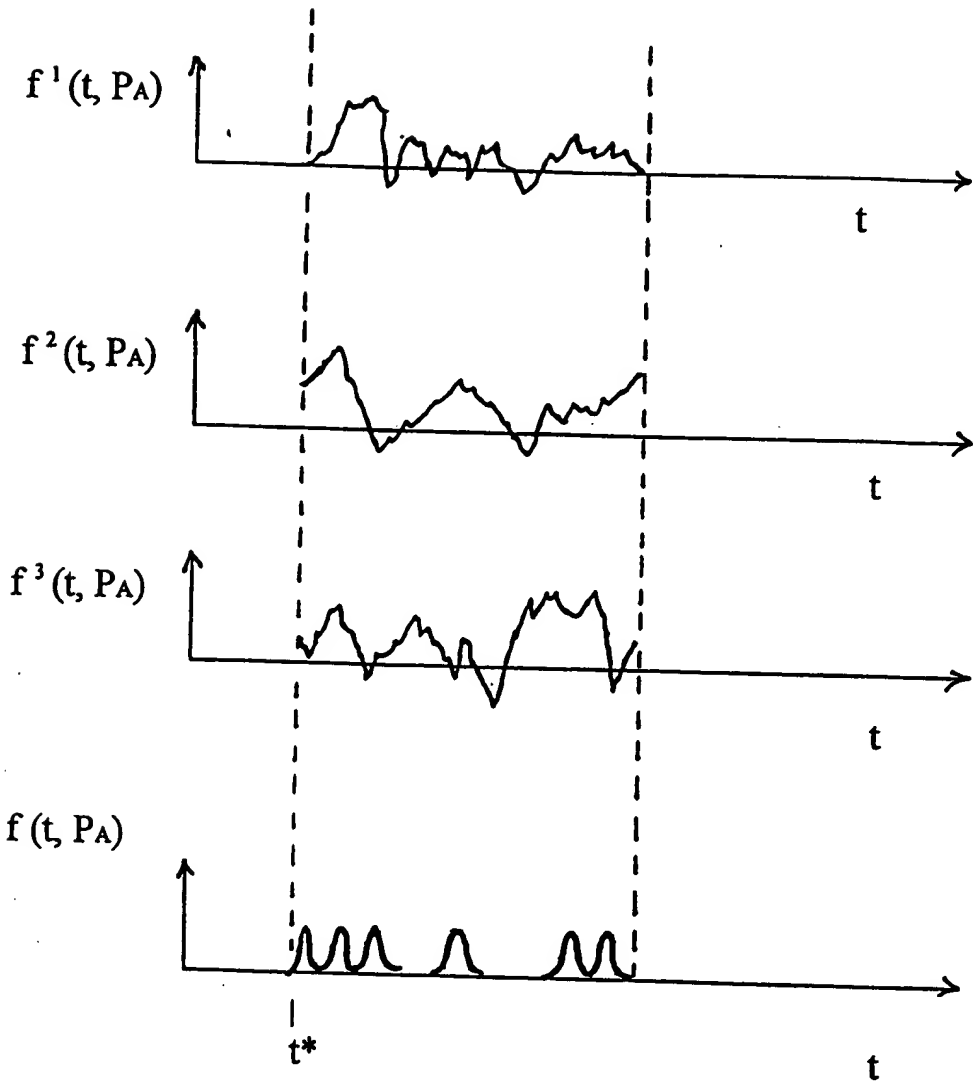



Figure 11

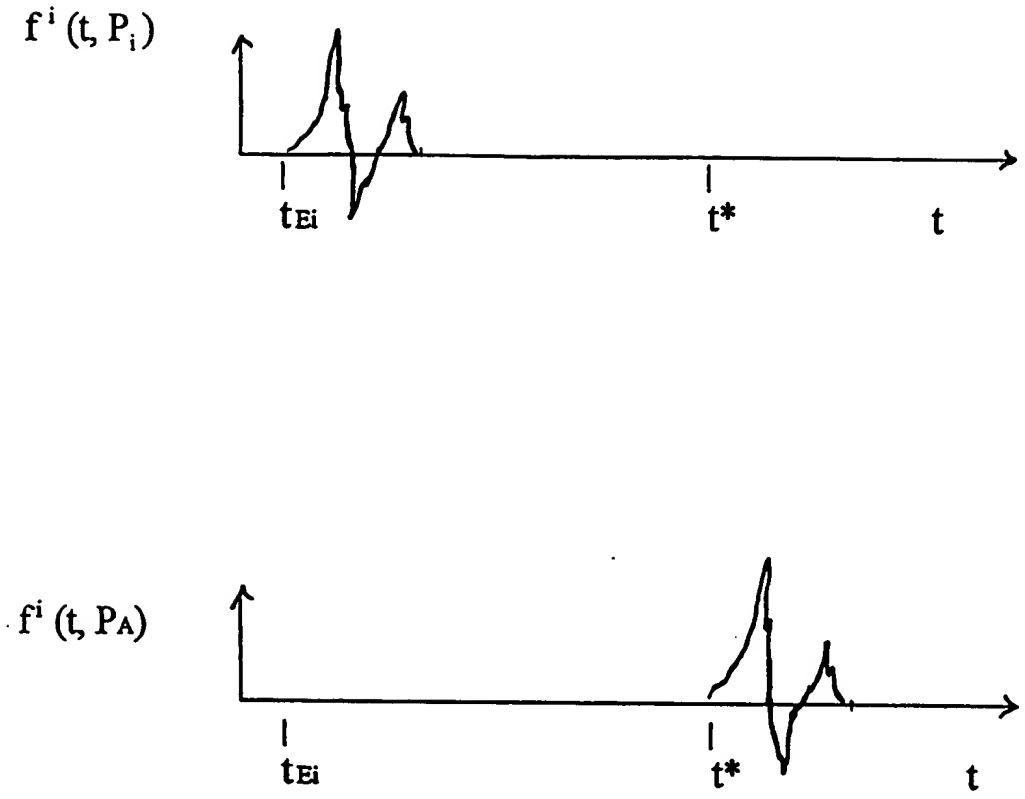



Figure 11A

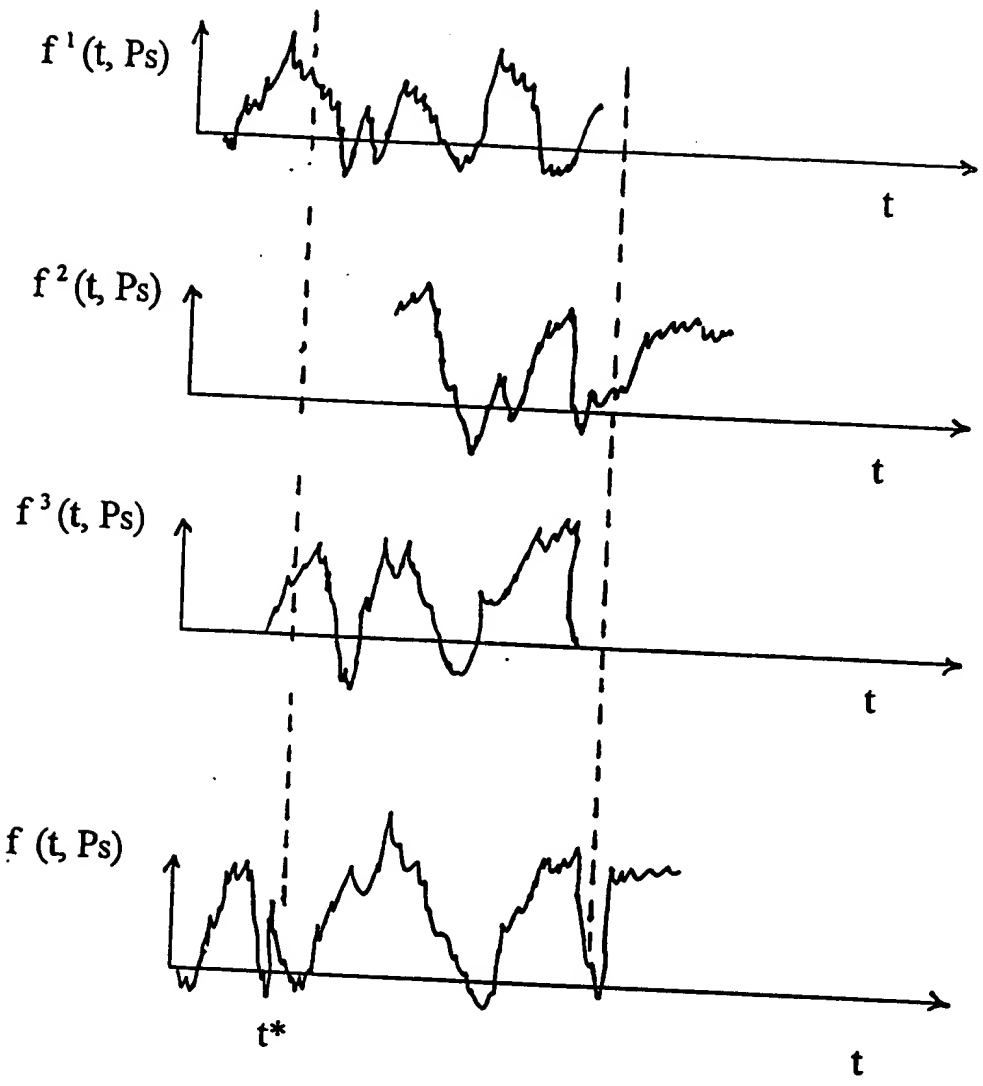



Figure 12

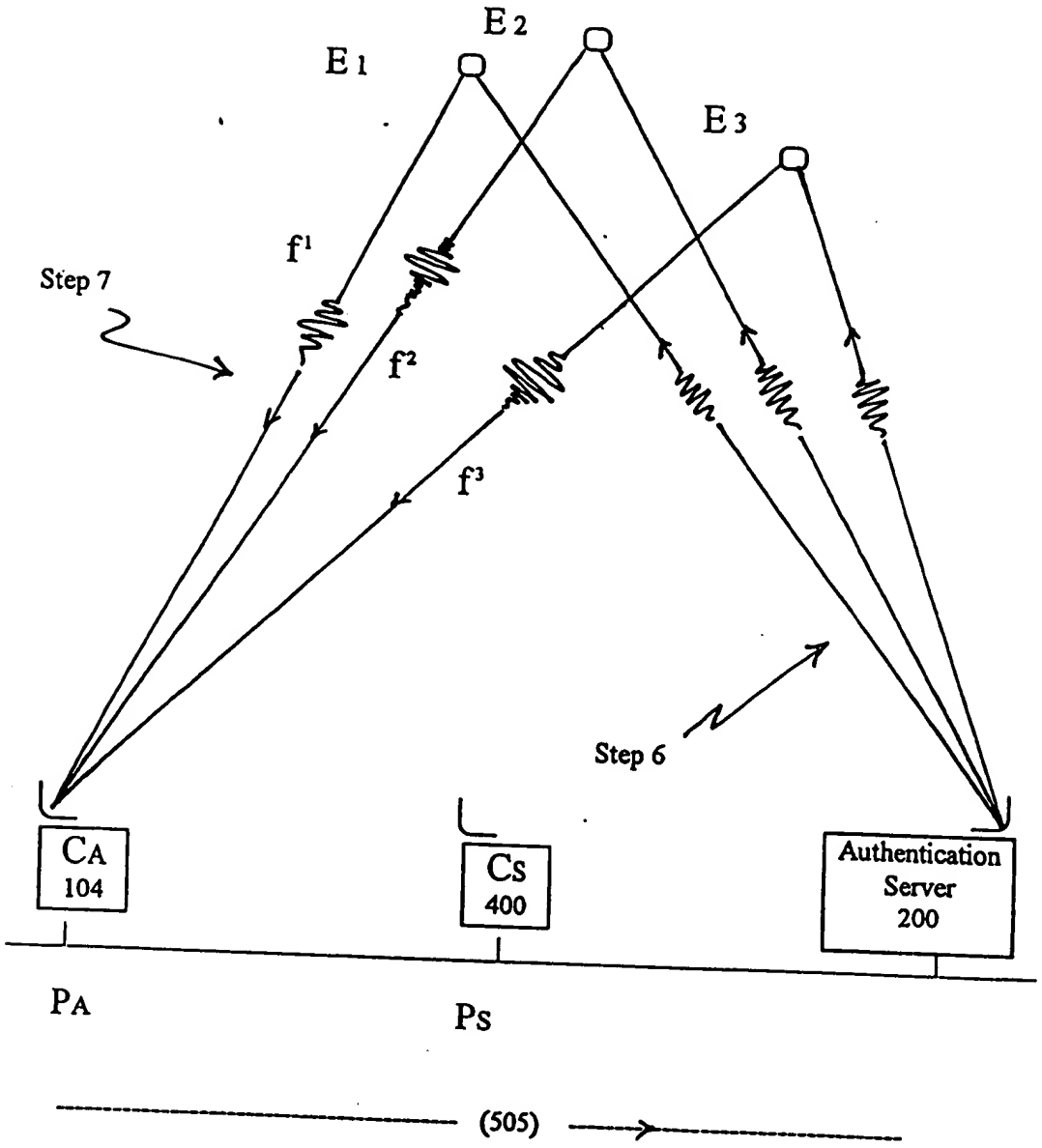

E2
E1
E3
f1
f2
f3
Step 7
Step 6
CA
104
CS
400
Authentication
Server
200
PA
PS
(505)

Figure 13

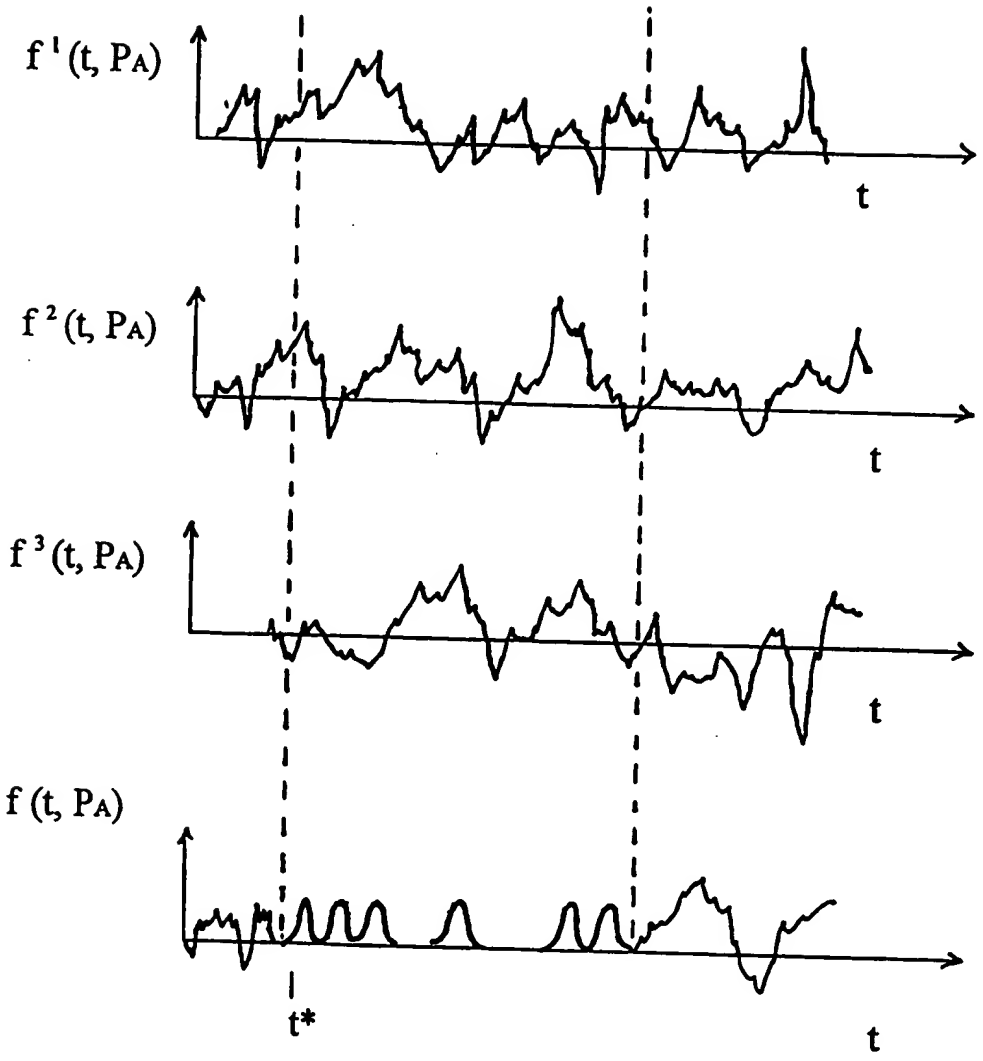



Figure 14

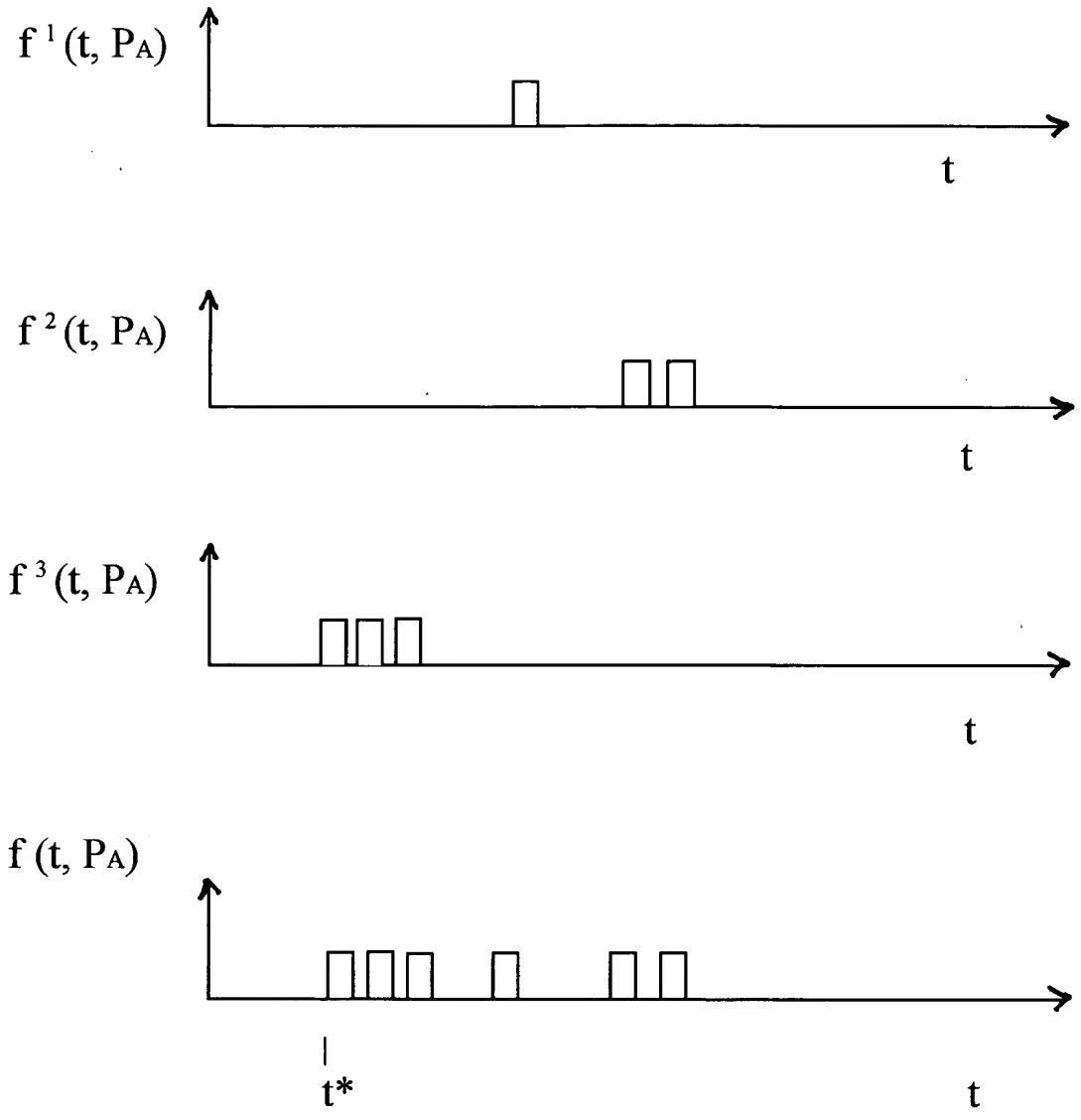



Figure 15